

SEQUENCE LISTING

<110> Brugliera, Filippa
Tanaka, Yoshikazu
Mason, John

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Leu Ile Pro Phe Gly Ala Gly Arg Arg Ile Cys Ala Gly Thr Arg Met	435		440		445	
Gly Met Val Leu Val Ser Tyr Ile Leu Gly Thr Leu Val His Ser Phe	450		455		460	
Asp Trp Lys Leu Pro Asn Gly Val Ser Glu Ile Asn Met Asp Glu Ser	465		470		475	480
Phe Gly Leu Ala Leu Gln Lys Ala Val Pro Leu Ser Ala Thr Val Ser	485		490		495	
Pro Arg Leu Ala Pro Ser Ala Tyr Val Ile	500		505			

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 <213> viola

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<223> n = any nucleotide

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 <212> PRT
 <213> viola

<400> 12

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 35 40 45

Leu Gly Ala Met Pro His Val Ala Leu Ala Lys Leu Ala Lys Lys Tyr
 50 55 60

Gly Pro Ile Met His Leu Lys Met Gly Thr Cys Asp Met Val Val Ala
 65 70 75 80

Ser Thr Pro Glu Ser Ala Arg Ala Phe Leu Lys Thr Leu Asp Leu Asn
 85 90 95

Phe Ser Asn Arg Pro Pro Asn Ala Gly Ala Ser His Leu Ala Tyr Gly
 100 105 110

Ala Gln Asp Leu Val Phe Ala Lys Tyr Gly Pro Arg Trp Lys Thr Leu
 115 120 125

Arg Lys Leu Ser Asn Leu His Met Leu Gly Gly Lys Ala Leu Asp Asp
 130 135 140

Trp Ala Asn Val Arg Val Thr Glu Leu Gly His Met Leu Lys Ala Met
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Cys Glu Ala Ser Arg Cys Gly Glu Pro Val Val Leu Ala Glu Met Leu
 165 170 175

Thr Tyr Ala Met Ala Asn Met Ile Gly Gln Val Ile Leu Ser Arg Arg
 180 185 190

Val Phe Val Thr Lys Gly Thr Glu Ser Asn Glu Phe Lys Asp Met Val
195 200 205

Val Glu Leu Met Thr Ser Ala Gly Tyr Phe Asn Ile Gly Asp Phe Ile
210 215 220

Pro Ser Ile Ala Trp Met Asp Leu Gln Gly Ile Glu Arg Gly Met Lys
225 230 235 240

Lys Leu His Thr Lys Phe Asp Val Leu Leu Thr Lys Met Val Lys Glu
245 250 255

His Arg Ala Thr Ser His Glu Arg Lys Gly Lys Ala Asp Phe Leu Asp
260 265 270

Val Leu Leu Glu Glu Cys Asp Asn Thr Asn Gly Glu Lys Leu Ser Ile
275 280 285

Thr Asn Ile Lys Ala Val Leu Leu Asn Leu Phe Thr Ala Gly Thr Asp
290 295 300

Thr Ser Ser Ser Ile Ile Glu Trp Ala Leu Thr Glu Met Ile Lys Asn
305 310 315 320

Pro Thr Ile Leu Lys Lys Ala Gln Glu Glu Met Asp Arg Val Ile Gly
325 330 335

Arg Asp Arg Arg Leu Leu Glu Ser Asp Ile Ser Ser Leu Pro Tyr Leu
340 345 350

Gln Ala Ile Ala Lys Glu Thr Tyr Arg Lys His Pro Ser Thr Pro Leu
355 360 365

Asn Leu Pro Arg Ile Ala Ile Gln Ala Cys Glu Val Asp Gly Tyr Tyr
370 375 380

Ile Pro Lys Asp Ala Arg Leu Ser Val Asn Ile Trp Ala Ile Gly Arg
385 390 395 400

Asp Pro Asn Val Trp Glu Asn Pro Leu Glu Phe Leu Pro Glu Arg Phe
405 410 415

Leu Ser Glu Glu Asn Gly Lys Ile Asn Pro Gly Gly Asn Asp Phe Lys

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Gly Met Val Leu Val Ser Tyr Ile Leu Gly Thr Leu Val His Ser Phe		
450	455	460
Asp Trp Lys Leu Pro Asn Gly Val Ala Glu Leu Asn Met Asp Glu Ser		
465	470	475
		480
Phe Gly Leu Ala Leu Gln Lys Ala Val Pro Leu Ser Ala Leu Val Ser		
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Pro Arg Leu Ala Ser Asn Pro Tyr Ala Thr		
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 <212> DNA
 <213> salvia

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Tyr	Gly	Pro	Lys	Trp	Arg	Leu	Leu	Arg	Lys	Leu	Ser	Ser	Leu	His	Met
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Leu	Gly	Ser	Lys	Ala	Leu	Glu	Glu	Trp	Ala	Asp	Val	Arg	Thr	Ser	Glu
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Val	Gly	His	Met	Leu	Ala	Ala	Met	His	Glu	Ala	Ser	Arg	Leu	Gly	Glu
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Ala	Val	Gly	Leu	Pro	Glu	Met	Leu	Val	Tyr	Ala	Thr	Ala	Asn	Met	Ile
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Gly	Gln	Val	Ile	Leu	Ser	Arg	Arg	Val	Phe	Val	Thr	Lys	Gly	Lys	Glu
		195					200					205			
Met	Asn	Glu	Phe	Lys	Glu	Met	Val	Val	Glu	Leu	Met	Thr	Thr	Ala	Gly
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Tyr	Phe	Asn	Ile	Gly	Asp	Phe	Ile	Pro	Trp	Leu	Ala	Trp	Met	Asp	Leu
225						230					235				240
Gln	Gly	Ile	Glu	Arg	Gly	Met	Lys	Lys	Leu	His	Lys	Lys	Trp	Asp	Arg
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Leu	Ile	Gly	Lys	Met	Leu	Asp	Asp	Arg	Leu	Lys	Ser	Thr	Tyr	Lys	Arg
			260					265					270		
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		275					280					285			
Glu	Ser	Lys	Asp	Asp	Asp	Glu	Asp	Cys	Lys	Leu	Thr	Thr	Thr	Asn	Ile
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Lys	Ala	Leu	Leu	Leu	Asn	Leu	Phe	Thr	Ala	Gly	Thr	Asp	Thr	Ser	Ser
305						310					315				320
Ser	Ile	Ile	Glu	Trp	Ala	Leu	Ala	Glu	Met	Ile	Lys	Asn	Pro	Ser	Ile
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Gln Lys Arg Ala His Gln Glu Met Asp Arg Val Ile Gly Arg Glu Arg
 340 345 350

Arg Leu Leu Glu Ser Asp Ile Pro Asn Leu Pro Tyr Leu Lys Ala Ile
 355 360 365

Cys Lys Glu Ala Tyr Arg Lys His Pro Ser Thr Pro Leu Asn Leu Pro
 370 375 380

Arg Ile Ser Thr Asp Ala Cys Val Val Asp Gly Tyr His Ile Pro Lys
 385 390 395 400

Asn Thr Arg Leu Ser Val Asn Ile Trp Ala Ile Gly Arg Asp Pro Asp
 405 410 415

Val Trp Glu Asn Pro Leu Asp Phe Asn Pro Asp Arg Phe Met Ser Gly
 420 425 430

Leu Gln Gly Ile Glu Pro Gly Gly Asn His Phe Glu Leu Ile Pro Phe
 435 440 445

Gly Ala Gly Arg Arg Ile Cys Ala Gly Ser Arg Met Gly Ile Val Ile
 450 455 460

Val Glu Tyr Leu Leu Ala Thr Leu Val His Ser Phe Glu Trp Asp Leu
 465 470 475 480

Pro Ala Gly Ser Ala Glu Met Asp Met Glu Glu Val Phe Gly Leu Ala
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Ser His Cys Tyr Ala Pro Pro Ser
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 <213> salvia

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<210> 16

<211> 518

<212> PRT

<213> salvia

<400> 16

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Thr Pro Gly His Pro Leu Pro Pro Gly Pro Arg Gly Phe Pro Val Val	35	40	45
Gly Ser Leu Pro Leu Leu Gly Asp Met Pro His Val Ala Leu Ala Lys	50	55	60
Met Ala Lys Thr Tyr Gly Pro Ile Met Tyr Leu Lys Met Gly Thr Val	65	70	75
Gly Met Val Val Ala Ser Thr Pro Asp Ala Ala Arg Ala Phe Leu Lys	85	90	95
Thr Gln Asp Ala Asn Phe Ser Asn Arg Pro Val Asn Ala Gly Ala Thr	100	105	110
Ile Leu Ala Tyr Asn Ala Gln Asp Met Val Phe Ala Pro Tyr Gly Pro	115	120	125
Lys Trp Arg Leu Leu Arg Lys Leu Ser Ser Leu His Met Leu Gly Ser	130	135	140
Lys Ala Leu Glu Glu Trp Ala Asp Val Arg Thr Ser Glu Val Gly His	145	150	155
Met Leu Ala Ala Met His Glu Ala Ser Arg Leu Asp Glu Ala Val Gly	165	170	175
Leu Pro Glu Met Leu Val Tyr Ala Thr Ala Asn Met Ile Gly Lys Val	180	185	190
Ile Leu Ser Arg Arg Val Phe Val Thr Lys Gly Lys Glu Met Asn Glu	195	200	205
Phe Lys Glu Met Val Val Glu Leu Met Thr Thr Ala Gly Tyr Phe Asn	210	215	220
Ile Gly Asp Phe Ile Pro Trp Leu Ala Trp Met Asp Leu Gln Gly Ile	225	230	235
			240

Glu Arg Gly Met Lys Lys Leu His Lys Lys Trp Asp Arg Leu Ile Gly
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 Lys Met Leu Asp Asp Arg Leu Lys Ser Thr Tyr Lys Arg Asn Asp Lys
 260 265 270
 Pro Asp Leu Leu Asp Ser Leu Leu Ala Asn His Asp Asp Glu Ser Lys
 275 280 285
 Asp Asp Asp Glu Asp Cys Lys Leu Thr Thr Thr Asn Ile Lys Ala Leu
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 Leu Leu Asn Leu Phe Thr Ala Gly Thr Asp Thr Ser Ser Ser Ile Ile
 305 310 315 320
 Glu Trp Ala Leu Ala Glu Met Ile Lys Asn Pro Ser Ile Gln Lys Arg
 325 330 335
 Ala His Gln Glu Met Asp Arg Val Ile Gly Arg Glu Arg Arg Leu Leu
 340 345 350
 Glu Ser Asp Ile Pro Asn Leu Pro Tyr Leu Lys Ala Ile Cys Lys Glu
 355 360 365
 Ala Tyr Arg Lys His Pro Ser Thr Pro Leu Asn Leu Pro Arg Ile Ser
 370 375 380
 Thr Asp Ala Cys Val Val Asp Gly Tyr His Ile Pro Lys Asn Thr Arg
 385 390 395 400
 Leu Ser Val Asn Ile Trp Ala Ile Gly Arg Asp Pro Asp Val Trp Glu
 405 410 415
 Asn Pro Leu Asp Phe Asn Pro Asp Arg Phe Met Ser Gly Leu Gln Gly
 420 425 430
 Ile Glu Pro Gly Gly Asn His Phe Glu Leu Ile Pro Phe Gly Ala Gly
 435 440 445
 Arg Arg Ile Cys Ala Gly Ser Arg Met Gly Ile Val Ile Val Glu Tyr
 450 455 460
 Leu Leu Ala Thr Leu Val His Ser Phe Glu Trp Asp Leu Pro Ala Gly
 465 470 475 480

Ser Ala Glu Met Asp Met Glu Glu Val Phe Gly Leu Ala Leu Gln Lys
485 490 495

Ala Val Pro Leu Ala Ala Arg Leu Thr Pro Arg Leu Pro Ser His Cys
500 505 510

Tyr Ala Pro Pro Ser Ile
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<212> DNA
<213> sollya

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<210> 18
<211> 521
<212> PRT
<213> sollya

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<400> 18

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Pro Phe Leu Tyr Cys Ile Leu Asn Met Arg Ile Leu Leu Asn Arg His
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Pro Arg Ser Leu Pro Pro Gly Pro Arg Pro Trp Pro Ile Val Gly Asn
          35           40           45

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Leu Pro His Leu Gly Thr Lys Pro His His Ser Ile Ala Ala Met Ala
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Arg Lys Tyr Gly Pro Leu Leu His Leu Arg Met Gly Ile Val His Val
65           70           75           80

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Val Val Ala Ala Ser Ala Asp Val Ala Ala Gln Phe Leu Lys Asn Asp
          85           90           95

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Ala Asn Phe Ser Ser Arg Pro Pro Asn Ser Gly Ala Lys His Met Ala
          100          105          110

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Tyr Asn Tyr His Asp Met Val Phe Ala Pro Tyr Gly Pro Arg Trp Arg
115 120 125

Met Leu Arg Lys Ile Cys Ala Leu His Ile Phe Ser Ala Lys Ala Leu
130 135 140

Asp Asp Phe His Arg Val Arg Glu Glu Glu Val Ala Ile Leu Ala Arg
145 150 155 160

Thr Leu Ala His Ala Gly Gln Lys Pro Val Asn Leu Gly Gln Leu Phe
165 170 175

Ser Thr Cys Asn Ala Asn Ala Leu Ser Val Leu Met Leu Gly Arg Arg
180 185 190

Leu Phe Ser Thr Glu Val Asp Ser Lys Ala Tyr Asp Phe Lys Gln Met
195 200 205

Val Val Glu Leu Met Thr Leu Ala Gly Glu Phe Asn Val Ser Asp Phe
210 215 220

Ile Pro Pro Leu Glu Trp Leu Asp Leu Gln Gly Val Ala Ala Lys Met
225 230 235 240

Lys Asn Val His Asn Arg Phe Asp Ala Phe Leu Asn Val Ile Leu Glu
245 250 255

Glu His Lys Leu Lys Leu Asn Asn Ser Gly His Gly Glu Gln Lys His
260 265 270

Met Asp Leu Leu Ser Thr Leu Ile Leu Leu Lys Asp Asp Ala Asp Ser
275 280 285

Glu Gly Gly Lys Leu Thr Asp Thr Glu Ile Lys Ala Leu Leu Leu Asn
290 295 300

Leu Phe Ser Ala Gly Thr Asp Thr Ser Ser Ser Thr Ile Glu Trp Val
305 310 315 320

Ile Ala Glu Leu Ile Arg Asn Pro Lys Ile Leu Ala Gln Ala Gln Arg
325 330 335

Glu Leu Asp Leu Val Val Gly Pro Asn Arg Leu Val Thr Asp Leu Asp

340	345	350
Leu Lys Gln Leu Thr Tyr Leu Gln Ala Ile Val Lys Glu Thr Phe Arg 355 360 365		
Leu His Pro Ala Thr Pro Leu Ser Leu Pro Arg Ile Ala Thr Glu Ser 370 375 380		
Cys Glu Ile Asn Gly Phe Tyr Ile Pro Lys Gly Ser Thr Leu Leu Val 385 390 395 400		
Asn Ile Trp Ala Ile Gly Arg Asp Pro Asn Thr Trp Ala Glu Pro Leu 405 410 415		
Val Phe Arg Pro Glu Arg Phe Leu Ser Asp Gly Glu Ser Pro Asn Val 420 425 430		
Asp Val Lys Gly Arg Asn Phe Glu Leu Ile Pro Phe Gly Ala Gly Arg 435 440 445		
Arg Ile Cys Ala Gly Met Asn Phe Gly Leu Arg Met Val Gln Leu Val 450 455 460		
Thr Ala Thr Leu Ile His Ala Phe Asn Trp Glu Leu Pro Glu Gly Glu 465 470 475 480		
Leu Pro Glu Asn Met Asn Met Glu Glu Asp Tyr Gly Ile Ser Leu Gln 485 490 495		
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Leu Pro Pro Gly Pro Lys Gly Trp Pro Ile Val Gly Ala Leu Pro Leu
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Met Gly Ser Met Pro His Val Thr Leu Ser Glu Met Ala Lys Lys Tyr
50 55 60

Gly Pro Val Met Tyr Leu Lys Met Gly Thr Asn Asn Met Ala Val Ala
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Ser Thr Pro Ser Ala Ala Arg Ala Phe Leu Lys Thr Leu Asp Leu Asn
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Phe Ser Asn Arg Pro Pro Asn Ala Gly Ala Thr His Leu Ala Tyr Asp
100 105 110

Ala Gln Asp Met Val Phe Ala Asp Tyr Gly Ser Arg Trp Lys Leu Leu
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Arg Lys Leu Ser Asn Leu His Met Leu Gly Gly Lys Ala Leu Glu Glu
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Trp Ser Gln Val Arg Glu Ile Glu Met Gly His Met Leu Arg Ala Met
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Tyr Asp Cys Ser Gly Gly Gly Asp Gly Asn Asn Asp Asn Asp Gly Asn
165 170 175

Lys Lys Lys Gly Thr Arg His Glu Pro Ile Val Val Ala Glu Met Leu
180 185 190

Thr Tyr Ala Met Ala Asn Met Ile Gly Pro Ser Asp Leu Glu Pro Ser
195 200 205

Cys Ile Pro Arg Gln Arg Val Arg Asn Arg Thr Ser Leu Arg Thr Trp
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Trp Phe Lys Leu Met Thr Val Ala Gly Tyr Phe Asn Ile Gly Asp Phe
225 230 235 240

Phe Pro Phe Leu Ala Arg Arg Arg Arg Gln Gly Ile Glu Arg Gly Met
245 250 255

Lys Thr Leu His Asn Lys Lys Asp Asp Leu Leu Thr Thr Met Ile His
260 265 270

Glu His Val Ala Ser Ala His Lys Arg Lys Gly Lys Pro Pro Phe Leu
275 280 285

Asp Val Leu Met Ala His His Thr Asn Glu Ser His Glu Leu Ser Leu
290 295 300

Thr Asn Ile Lys Ala Leu Leu Leu Asn Leu Phe Thr Ala Gly Thr Asp
305 310 315 320

Thr Ser Ser Ser Ile Ile Glu Trp Ala Leu Ala Glu Met Leu Ile Asn
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Pro Lys Ile Met Lys Lys Val His Glu Glu Met Asp Lys Val Ile Gly
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Lys Asp Arg Arg Leu Lys Glu Ser Asp Ile Glu Asn Leu Pro Tyr Leu
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Gln Ala Ile Cys Lys Glu Thr Tyr Arg Lys His Pro Ser Thr Pro Leu
370 375 380

Asn Leu Pro Arg Ile Ser Ser Gln Ala Cys Gln Val Asn Gly Tyr Tyr
385 390 395 400

Ile Pro Lys Asn Thr Arg Leu Ser Val Asn Ile Trp Ala Ile Gly Arg
405 410 415

Asp Pro Asn Val Trp Glu Asn Pro Leu Glu Phe Asn Pro Glu Arg Phe

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Ile Val Leu Val Gln Tyr Ile Leu Gly Thr Leu Val His Ser Phe Asp		
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Ala	Thr	Gly	His	Arg	Cys	Arg	Arg	Leu	Pro	Pro	Gly	Pro	Thr	Gly	Trp
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Pro	Ile	Leu	Gly	Ala	Leu	Pro	Leu	Leu	Gly	Asn	Met	Pro	His	Val	Thr
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Phe	Ala	Asn	Met	Ala	Lys	Lys	Tyr	Gly	Ser	Val	Met	Tyr	Leu	Lys	Val
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Phe Leu Lys Thr Leu Asp Leu Asn Phe Ser Asn Arg Pro Pro Asn Ala
100 105 110

Gly Ala Thr His Leu Ala Tyr Asn Ala Gln Asp Met Val Phe Ala His
115 120 125

Tyr Gly Pro Lys Trp Lys Leu Leu Arg Lys Leu Ser Asn Leu His Met
130 135 140

Leu Gly Gly Lys Ala Leu Glu Asn Trp Ala Asp Val Arg Lys Thr Glu
145 150 155 160

Leu Gly Tyr Met Leu Lys Ala Met Phe Glu Ser Ser Gln Asn Asn Glu
165 170 175

Pro Val Met Ile Ser Glu Met Leu Thr Tyr Ala Met Ala Asn Met Leu
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Ser Gln Val Ile Leu Ser Arg Arg Val Phe Asn Lys Lys Gly Ala Lys
195 200 205

Ser Asn Glu Phe Lys Asp Met Val Val Glu Leu Met Thr Ser Ala Gly
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Tyr Phe Asn Ile Gly Asp Phe Ile Pro Ser Ile Gly Trp Met Asp Leu
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Gln Gly Ile Glu Gly Gly Met Lys Arg Leu His Lys Lys Phe Asp Val
245 250 255

Leu Leu Thr Arg Leu Leu Asp Asp His Lys Arg Thr Ser Gln Glu Arg
260 265 270

Lys Gln Lys Pro Asp Phe Leu Asp Phe Val Ile Ala Asn Gly Asp Asn
275 280 285

Ser Asp Gly Glu Arg Leu Asn Thr Asp Asn Ile Lys Ala Leu Leu Leu
290 295 300

Asn Leu Phe Thr Ala Gly Thr Asp Thr Ser Ser Ser Ile Ile Glu Trp
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Ala Leu Ala Glu Leu Leu Lys Asn Arg Thr Leu Leu Thr Arg Ala Gln
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Asp Glu Met Asp Arg Val Ile Gly Arg Asp Arg Arg Leu Leu Glu Ser
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Asp Ile Pro Asn Leu Pro Tyr Leu Gln Ala Ile Cys Lys Glu Thr Phe
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Arg Lys His Pro Ser Thr Pro Leu Asn Leu Pro Arg Asn Cys Ile Arg
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Gly His Val Asp Val Asn Gly Tyr Tyr Ile Pro Lys Gly Thr Arg Leu
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Asn Val Asn Ile Trp Ala Ile Gly Arg Asp Pro Ser Val Trp Gly Asp
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Asn Pro Asn Glu Phe Asp Pro Glu Arg Phe Leu Tyr Gly Arg Asn Ala
 420 425 430

Lys Ile Asp Pro Arg Gly Asn His Phe Glu Leu Ile Pro Phe Gly Ala
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Gly Arg Arg Ile Cys Ala Gly Thr Arg Met Gly Ile Leu Leu Val Glu
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Tyr Ile Leu Gly Thr Leu Val His Ser Phe Asp Trp Lys Leu Gly Phe
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Ser Glu Asp Glu Leu Asn Met Asp Glu Thr Phe Gly Leu Ala Leu Gln
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Asn Arg His Lys Lys Leu Pro Pro Gly Pro Arg Gly Trp Pro Ile Val
 35 40 45

Gly Ala Leu Pro Val Leu Gly Ser Met Pro His Val Thr Leu Ser Arg
 50 55 60

Met Ala Lys Lys Tyr Gly Pro Val Met Tyr Leu Lys Met Gly Thr Lys
 65 70 75 80

Asn Met Val Val Ala Ser Thr Pro Ala Ala Ala Arg Ala Phe Leu Lys
 85 90 95

Thr Leu Asp Gln Asn Phe Ser Asn Arg Pro Pro Asn Ala Gly Ala Thr
100 105 110

His Leu Ala Tyr Asp Ser Gln Asp Met Val Phe Ala His Tyr Gly Ser
115 120 125

Arg Trp Arg Leu Leu Arg Lys Leu Ser Asn Leu His Met Leu Gly Gly
130 135 140

Lys Ala Leu Asp Asp Trp Ala His Val Arg Glu Lys Glu Met Arg Tyr
145 150 155 160

Met Leu Gly Ser Met Tyr Asp Cys Ser Lys Arg Gly Glu Ala Val Val
165 170 175

Val Ala Glu Met Leu Thr Tyr Ala Met Ala Asn Met Ile Gly Gln Val
180 185 190

Ile Leu Ser Arg Arg Val Phe Glu Ser Lys Gly Ser Glu Ser Asn Glu
195 200 205

Phe Lys Asp Met Val Val Glu Leu Met Thr Val Ala Gly Tyr Phe Asn
210 215 220

Ile Gly Asp Phe Val Pro Phe Leu Ala Trp Phe Asp Leu Gln Gly Ile
225 230 235 240

Glu Arg Glu Met Lys Ala Leu His Lys Lys Phe Asp Ala Leu Leu Thr
245 250 255

Arg Met Ile Glu Glu His Val Ala Ser Arg Cys His Lys Gly Lys Gly
260 265 270

Asn Tyr Asp Phe Leu Asp Val Val Met Asp His Ser Ser Glu Ser Ser
275 280 285

Asp Gly Glu Arg Leu Thr Leu Thr Asn Val Lys Ala Leu Leu Leu Asn
290 295 300

Leu Phe Thr Ala Gly Thr Asp Thr Ser Ser Ser Val Ile Glu Trp Ala
305 310 315 320

Leu Ala Glu Met Leu Lys Asn Pro His Ile Thr Lys Arg Ala His Glu
325 330 335

Glu Met Asp Gln Val Ile Gly Lys Asp Arg Arg Leu Lys Glu Ser Asp
 340 345 350

Leu Arg Asn Leu Pro Tyr Leu Gln Ala Ile Cys Lys Glu Ala Leu Arg
 355 360 365

Lys His Pro Ser Thr Pro Leu Asn Leu Pro Arg Val Ser Ser Gln Pro
 370 375 380

Cys Gln Val Asn Gly Tyr Tyr Ile Pro Lys Asn Thr Arg Leu Ser Val
 385 390 395 400

Asn Ile Trp Ala Ile Gly Arg Asp Pro Glu Val Trp Glu Asn Pro Cys
 405 410 415

Glu Phe Asn Pro Glu Arg Phe Met Ser Gly Lys Gly Ala Lys Val Asp
 420 425 430

Pro His Gly Asn Asp Phe Glu Leu Ile Pro Phe Gly Ala Gly Arg Arg
 435 440 445

Val Cys Ala Gly Thr Arg Met Gly Ile Val Met Val Gln Tyr Ile Leu
 450 455 460

Gly Thr Leu Val His Ser Phe Glu Trp Lys Leu Pro Asn Gly Val Val
 465 470 475 480

Glu Leu Asn Met Glu Glu Thr Phe Gly Leu Ala Leu Gln Lys Lys Val
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Pro Leu Ser Ala Leu Val Ser Pro Arg Leu His Pro Ser Ser Tyr Ile
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			20					25					30		

Cys Val Tyr Gln Ala Asp Tyr Pro Asp Tyr Tyr Phe Arg Ile Thr Lys
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 Ser Glu His Met Val Asp Leu Lys Glu Lys Phe Lys Arg Met Cys Asp
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 Lys Ser Met Ile Arg Lys Arg Tyr Met His Leu Thr Glu Glu Tyr Leu
 65 70 75 80
 Lys Glu Asn Pro Asn Leu Cys Glu Tyr Met Ala Pro Ser Leu Asp Ala
 85 90 95
 Arg Gln Asp Val Val Val Val Glu Val Pro Lys Leu Gly Lys Glu Ala
 100 105 110
 Ala Thr Lys Ala Ile Lys Glu Trp Gly Gln Pro Lys Ser Lys Ile Thr
 115 120 125
 His Leu Ile Phe Cys Thr Thr Ser Gly Val Asp Met Pro Gly Ala Asp
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 Tyr Gln Leu Thr Lys Leu Leu Gly Leu Arg Pro Ser Val Lys Arg Phe
 145 150 155 160
 Met Met Tyr Gln Gln Gly Cys Phe Ala Gly Gly Thr Val Leu Arg Leu
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 Ala Lys Asp Leu Ala Glu Asn Asn Lys Asp Ala Arg Val Leu Val Val
 180 185 190
 Cys Ser Glu Ile Thr Ala Val Thr Phe Arg Gly Pro Asn Asp Thr His
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 Leu Asp Ser Leu Val Gly Gln Ala Leu Phe Gly Asp Gly Ala Ala Ala
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 Val Ile Val Gly Ser Asp Pro Asp Leu Thr Lys Glu Arg Pro Leu Phe
 225 230 235 240
 Glu Met Ile Ser Ala Ala Gln Thr Ile Leu Pro Asp Ser Glu Gly Ala
 245 250 255
 Ile Asp Gly His Leu Arg Glu Val Gly Leu Thr Phe His Leu Leu Lys
 260 265 270

Asp Val Pro Gly Leu Ile Ser Lys Asn Ile Glu Lys Ala Leu Thr Gln
 275 280 285

Ala Phe Ser Pro Leu Gly Ile Ser Asp Trp Asn Ser Ile Phe Trp Ile
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Ala His Pro Gly Gly Pro Ala Ile Leu Asp Gln Val Glu Leu Lys Leu
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Gly Leu Lys Glu Glu Lys Met Arg Ala Thr Arg His Val Leu Ser Glu
 325 330 335

Tyr Gly Asn Met Ser Ser Ala Cys Val Leu Phe Ile Met Asp Glu Met
 340 345 350

Arg Lys Lys Ser Ala Glu Glu Gly Ala Ala Thr Thr Gly Glu Gly Leu
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<400> 32

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Ala Ala Ser Ile Tyr Phe Leu Ile Arg Tyr Phe Leu Ser Arg Ile Ile
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Thr Thr Ile Thr His Gly Gly Ser His Arg Leu Pro Pro Gly Pro Arg
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Gly Phe Pro Ile Val Gly Ala Leu Pro Leu Leu Gly Asp Met Pro His
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Val Ala Leu Ala Lys Met Ala Lys Thr Tyr Gly Pro Ile Ile Tyr Leu
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Lys Val Gly Ala Trp Gly Met Ala Val Ala Ser Thr Pro Ala Ser Ala
 85 90 95

Arg Ala Phe Leu Lys Thr Leu Asp Thr Asn Phe Ser Asp Arg Pro Pro
 100 105 110

Asn Ala Gly Ala Thr Ile Leu Ala Tyr Asn Ala Glu Asp Met Val Phe
 115 120 125

Ala Arg Tyr Gly Pro Lys Trp Arg Leu Leu Arg Lys Leu Thr Asn Leu
 130 135 140

His Met Leu Gly Asn His Ala Leu Asp Gly Trp Ala Ser Val Arg Ser
 145 150 155 160

Ser Glu Leu Gly Tyr Met Leu His Ala Arg His Asp Ala Thr Arg His
 165 170 175

Gly Glu Pro Val Val Leu Pro Glu Met Leu Met Tyr Ala Val Gly Asn
 180 185 190

Met Leu Gly Gln Val Ile Leu Ser Arg Arg Ile Phe Glu Lys Lys Gly
 195 200 205

Lys Glu Val Asn Glu Leu Lys Asp Met Val Val Glu Leu Met Thr Ser
 210 215 220

Ala Gly Tyr Phe Asn Ile Gly Asp Phe Ile Pro Trp Leu Ala Trp Met
 225 230 235 240

Asp Leu Gln Gly Ile Glu Ser Gly Met Lys Lys Leu His Asn Lys Phe
 245 250 255

Asp Lys Leu Ile Gly Lys Met Ile Glu Asp His Leu Lys Ser Ala His
 260 265 270

Ile Arg Lys Ala Lys Pro Asp Leu Leu Asp Cys Leu Leu Ala Asn Arg
 275 280 285

Asp Ser Ser Asp Ala Glu Lys Leu Thr Ser Thr Asn Val Lys Ala Leu
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Leu Leu Asn Leu Phe Thr Ala Gly Thr Asp Thr Ser Ser Ser Ile Ile
 305 310 315 320

Glu Trp Ala Leu Ala Glu Met Ile Lys Asn Pro Thr Ile Leu Asn Arg
 325 330 335

Ala His Gln Glu Met Asp Arg Val Val Gly Arg Thr Arg Arg Leu Val
 340 345 350

Glu Ser Asp Ile Pro Asn Leu Pro Tyr Leu Arg Ala Ile Cys Lys Glu
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Thr Tyr Arg Lys His Pro Ser Thr Pro Leu Asn Leu Pro Arg Ile Ala
 370 375 380

Ser Glu Pro Cys Val Val Asp Gly Tyr Tyr Ile Pro Lys Asn Thr Arg
 385 390 395 400

Leu Ser Val Asn Ile Trp Ala Ile Gly Arg Asp Pro Asp Val Trp Glu
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Asn Pro Leu Asp Phe Asn Pro Asp Arg Phe Leu Ser Gly Lys Asn Glu
 420 425 430

Arg Ile Asp Pro Arg Gly Asn His Phe Glu Leu Ile Pro Phe Gly Ala
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Gly Arg Arg Ile Cys Ala Gly Ala Arg Met Gly Met Val Leu Val Glu
 450 455 460

Tyr Ile Leu Gly Thr Leu Val His Ala Phe Glu Trp Glu Leu Pro Ala
 465 470 475 480

Gly Ala Gly Ala Gly Thr Ala Glu Leu Asn Met Asp His Val Phe Gly
 485 490 495

Leu Ala Leu Gln Lys Ala Val Pro Leu Thr Ala Met Leu Thr Pro Arg
 500 505 510

Leu Pro Ser His Cys Tyr Ala Pro
 515 520